

ABSTRACT OF THE DISCLOSURE

An inverter apparatus for converting a DC power converted from an input AC power to an output AC power of a variable frequency and a variable electric power to drive an induction motor at a variable speed. The inverter apparatus includes a rectifying unit, a filter capacitor, an inverter unit having an input connected across the filter capacitor, an input current detector and a gate circuitry for driving the inverter unit. An excitation current detection unit detects an excitation current of the induction motor from an output signal of the input current detector, a gate signal for driving the gate circuitry and a reference phase command. A setting unit sets a limitation level of the excitation current, a torque boost voltage command unit produces a torque boost voltage command, and a torque boost voltage compensation unit changes the torque boost voltage command so that the detected excitation current value is smaller than or equal to the limitation level.